

Work Order ID 139619

Monday, November 30, 2015 11:08:52 AM

139619

Page 1

Item ID: D2521 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Individual Bearpaw
 Start Date: 11/30/2015 Start Qty: 8.00 ***8*** Cust Item ID:
 Required Date: 11/30/2015 Req'd Qty: 8.00 ***8*** Customer:
 Reference:

Approvals: Process Plan: MLS Date: DEC 03 2015 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2521	Rev J								
120	FLOW WATER JET	0.00							
120									
Waterjet	Memo	0.06							
FLOW CNC Waterjet	Cut Blank as per D2521 blank file								
130	HAAS CNC VERTICAL MACHINING #1	0.00							
130									
HAAS 1	Memo	0.11							
HAAS CNC vertical machine #1	1-Inspect material for defects or damage prior to machining 2-Machine as per Folio and Dwg D2521 Identify as D2521 3-Deburr								
140	QC2- Inspect parts off machine FAI/FAIB	0.00							
140									
QC	Memo	0.00							
Quality Control									

26.5

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

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Page 2

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC8- Inspect parts - second check	0.00							DAS 14 9-89
150						8	0		16/02/23
QC	Memo	0.00							
Quality Control									
160	Identify as per dwg & Stock Location: <u>PK</u>	0.00				8			DAS 6 9-89
160								FEB 23 2016	
Packaging	Memo	0.00							
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							16/2/24
170									
QC	Memo	0.01							
Quality Control									

MCS FEB 23 2016

DQA: _____ Date: _____



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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____							
Misidentified	☐	Past Due	☐								

Picklist Print

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Page 1

Work Order ID: 139619

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Parent Item: D2521

D2521

Parent Item Name: Individual Bearpaw

Start Date: 11/30/2015

Required Date: 11/30/2015

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP Rev:A 08-10-01 New Manufacturing Method JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MUHMWB10		Purchased		No			sf	446.4000		58.94737			

MUHMWB10

UHMW 1" Black - 48"x120" Tivar Mfg.#52480104

02/16/22/10

Location

Loc Qty

Loc Code

MAT018

446.4

m133248

46.4

m133642

400

134171

55

DQA: _____ Date: _____



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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☐ Doc/Data ☐ Offset/Setup ☐ Equip/Tooling ☐ Supplier ☐ Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
		OTHER : _____							

DART AEROSPACE LTD		Work Order: 139619
Description: Bearpaw		Part Number: D2521
Inspection Dwg: D2521	Rev: J	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Inspection Sheet Drawing Dimension			Actual Dimension	Accept	Reject	Method of Inspection	Comments
Dim	Min	Max					
A	0.260	0.266	.260	/		Vern	FK-04
B	0.90	0.96	.932	/		"	"
C	0.27	0.330	.303	/		"	"
D	0.470	0.530	.500	/		"	"
E	21.740	21.760	21.750	/		Tape	FK-05
F	0.72	0.780	.749	/		Vern	FK-04
G	0.35	0.410	.379	/		"	"
H	11.490	11.570	11.500	/		Tape	FK-05
I	3.41	3.47	3.430	/		Vern	FK-04
J	11.790	11.810	11.800	/		Tape	FK-05
K	9.47	9.53	9.500	/		"	"
L	7.190	7.210	7.200	/		"	"
M	6.910	6.970	6.940	/		"	"
N	44.47	44.530	44.50	/		"	"
O	6.590	6.650	6.628	/		"	"
P	0.940	0.980	.956	/		Vern	FK-04
Q	18.97	19.03	19.00	/		Tape	FK-05
R	0.350	0.410	.380	/		Vern	FK-04
S	0.740	0.780	.748	/		"	"
T	0.240	0.280	.243	/		"	"
U	0.370	0.410	.371	/		"	"
V	0.740	0.780	.745	/		"	"
W	0.740	0.780	.751	/		"	"

Measured by: DAS 44	Audited by: DAS 14	Prototype Approval:	N/A
Date: 16/02/19	Date: 16/02/23	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	03.09.22	New Issue P/O D205-564-011 & D430-688-011	KJ/RF	
B	05.06.15	Dimensions and tolerances changed	KJ/RF	
C	06.08.31	Dimensions updated per D2521 Rev. J	KJ/JLM	

DART

DESIGN #	DRAWN BY CB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED CP	APPROVED #	DRAWING NO. D2521	REV. J SHEET 1 OF 3
DATE 06.07.28	TITLE 205 BEARPAW		SCALE NTS
A	95.11.28	NEW ISSUE	
B	96.01.11	SHOW BENDING MOVE HOLES	
C	96.01.29	ADJUST HOLE LOCATION FOR TOOLING	
D	96.05.14	ADJUSTED BEAR PAW THICKNESS	
E	96.12.18	43.500 WAS 46.750	
F	97.05.07	ADDED REAR POCKET, MOVED HOLES	
G	98.08.06	ADD C'BORE AND CHAMFER EDGES	
H	03.01.30	CHANGE GEOMETRY FOR RUN-ON LDG.	
I	05.05.20	REMOVE BEND; CHANGE TOLERANCES	
J	06.07.28	CHANGE FOR FLOAT SKIDTUBE	

15-12-03
NO 135619 M45
WORK ORDER
WITHOUT PERMIT
SUBJECT TO AMENDMENT
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RETURN TO
SHOP COPY

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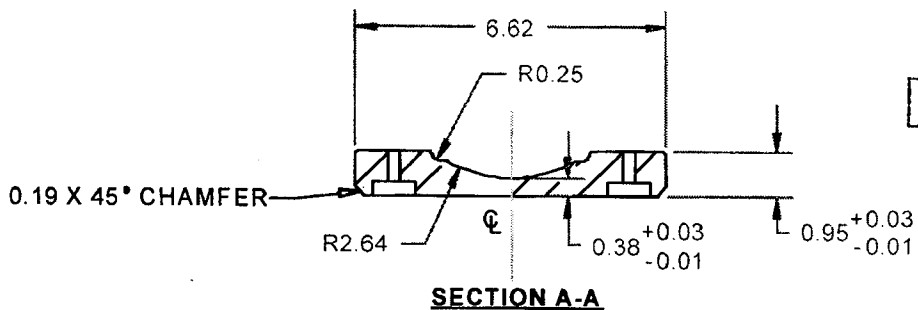
06 08.23 #

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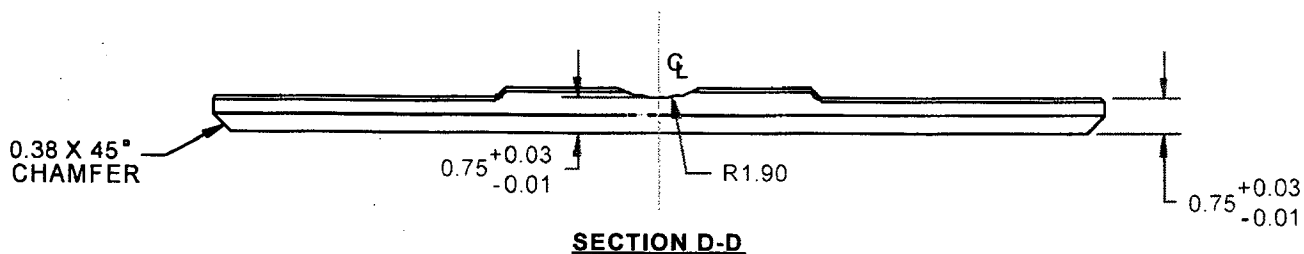
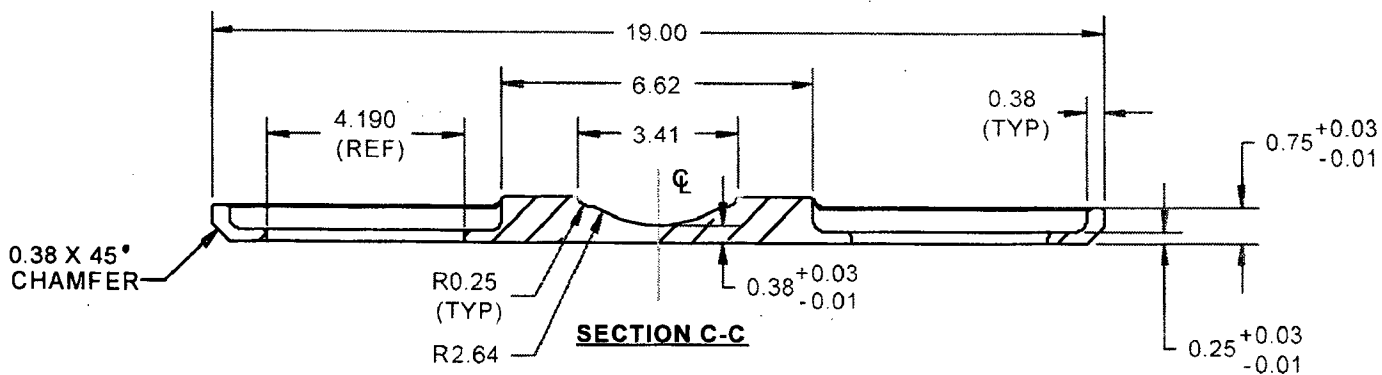
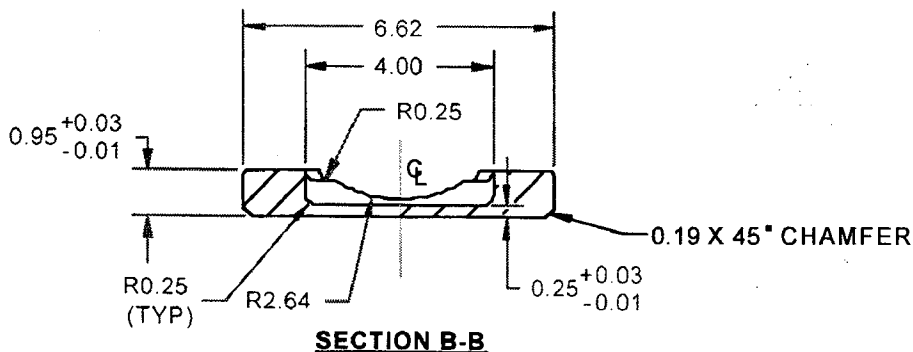
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DESIGN #	DRAWN BY C.B.	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED CP	APPROVED #	DRAWING NO. D2521	REV. J
DATE 06.07.28	TITLE 205 BEARPAW		SHEET 3 OF 3
			SCALE 1:4



RELEASED
06.08.23



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